Important Advances in Clinical Medicine

Epitomes of Progress—Neurosurgery

The Scientific Board of the California Medical Association presents the following inventory of items of progress in neurosurgery. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist the busy practitioner, student, research worker or scholar to stay abreast of these items of progress in neurosurgery which have recently achieved a substantial degree of authoritative acceptance, whether in his own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Neurosurgery of the California Medical Association and the summaries were prepared under its direction.

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Early Warnings of Intracranial Aneurysms That Bleed

THE MORBIDITY AND MORTALITY from rupture of intracranial aneurysms are of such magnitude that physicians should be alerted to any identifying clues of impending bleeding. Aneurysms in specific loci may have well-described clinical signs before they bleed. Less precise, but of equal import, are other danger signals of imminent bleeding (or, at least, ominous activity) by the aneurysm that should lead to prompt investigation and preventive treatment.

Prominent among these are so-called minor episodes a few days or weeks before a major bleeding event. Called "warning leaks," their true hemorrhagic nature is not necessarily established, but the symptoms demand attention: usually a severe occipital or nuchal pain (occasionally frontal or retro-orbital) with radiation to the vertex or the spine without loss of consciousness but occasionally with vomiting. Recovery is commonly rapid over about 48 hours.

Sixty percent of patients admitted to King and Saba's series with a subarachnoid bleeding episode reported such telltale clues, and 50 percent of Gillingham and Maccabe's patients admitted in stupor or coma were found to have had warning headaches. Fisher also encountered a history of one or more sudden minor headaches occurring in the four weeks before a major attack in about 25 percent of patients with ruptured saccular aneurysms. Of one to several days' duration, some headaches were associated with stiff neck. Clearly, we must consider such warning episodes of unmistakable diagnostic value. Three recent examples in our clinic, two of which were probably avoidable tragedies, underscore the importance of such symptoms.

Although other signs may herald trouble (such as transient ischemic episodes due to emboli from an aneurysm), complaints of cranial pain—severe headache, often worse than anything the patient had previously experienced—should attract the physician's attention.

The pathogenic mechanisms of such sentinel complaints may not be readily proved, but there is indirect evidence that limited leakage of the aneurysm, bleeding into the wall of the aneurysm without extravasation beyond its confines, weakening and tearing or stretching of the wall of the aneurysmal sac may, individually or collectively, be responsible. Not only is spilled blood irritating to pain-sensitive meninges, but the neural innervation of the dura mater and the great vessels from